

## 2022 Advanced Placement® Calculus AB

### About the AP® Calculus AB Summer Institute

This course is for AP Calculus AB teachers. Our purpose is to fully explore the current Course and Exam Description along with a variety of other effective activities to support student learning. We will discuss common student misconceptions, AP exam question approaches and scoring, and classroom strategies to maximize learning. We will focus on enhancing teacher understanding and development of topics as well as sharing ideas and activities. The online course will run for 5 days and will have both synchronous and asynchronous components. Participants will find access to a Google Drive beneficial as sharing will best occur within the Google platform.

### Goals of the Institute:

The topics listed below will be visited over the course of the week. The emphasis, order, and inclusion of these and other topics will be driven by participant needs and goals.

#### Introductions and Goals for the Week

- AP Calculus Course and Exam Description
- AP Classroom Resources and Implementation
- Development and Planning of Unit 1: Limits and Continuity
- Multiple Representations in Unit 2: Differentiation
- Exam Style Questions and Task Verbs
- Implicit Differentiation and Chain Rule in Unit 3
- Key Components of Unit 4: Contextual Applications of Differentiation
- Connections in Unit 5: Analytical Applications of Differentiation
- Topics and Activities in Unit 6: Integration and Accumulation of Change
- Activities for Unit 8: Applications of Integration
- Differential Equations in Unit 7
- Big Theorems and Conditions: IVT, MVT, EVT, FTC, L'Hospital's Rule
- Instructional Strategies and Effective Activity Design
- Full Credit Exam Justifications
- A Look at 2022 Exam Questions
- Graphing Calculator Discussions

### **What to bring:**

Items you should have access to during the week include:

- A laptop computer/ tablet
- A favorite lesson or practice to share
- A copy of your school's academic calendar
- A copy of the textbook you will be using next year (if you have access to one)

**Instructor:**



**Julie Harrison** is a gifted endorsed Math Teacher at Eagle's Landing High School in McDonough, Georgia. She has taught high school courses ranging from General Math to Pre-Calculus and has been teaching AP Calculus at ELHS since 2002. For 14 years, she served as Math Department Chair at ELHS. Julie has attended APSIs in both AB and BC with presenter Benita Albert. She has been involved in the AP Reading for Calculus exams since 2008 where she has worked on the operational, alternate, and international exams for both AB and BC. She began serving as a Table Leader at the AP Reading in 2016. Julie serves as a workshop presenter for her school, district, and Georgia DOE. She has been involved in curriculum writing at the district level since 2006, recently served as PreCalculus Team Lead for the Georgia Math Standards Review Teacher Working Committee for Georgia's 2020 revision of standards, and currently serves on the Georgia DOE PreCalculus Resource Revision Committee. Her passion is supporting open access for students in taking AP Calculus as well as creating activities for students in the classroom, especially those that use formative assessment and technology.